

CLAIMS

That which is claimed is:

1. A vascular occlusive device comprising:  
5 a support member;  
a bioactive agent disposed on said support member; and,  
an outer barrier disposed on said bioactive agent to prevent exposure of said  
bioactive agent to bodily fluid when said vascular occlusive device is inserted into a  
blood vessel, said outer barrier exhibiting the characteristic of being substantially inert to  
10 bodily fluid but dissolving when exposed to an external agent.
2. A vascular occlusive device as defined in Claim 1, wherein the support member is  
a vascular occlusive embolic coil.
- 15 3. A vascular occlusive device as defined in Claim 2, wherein the support member  
takes the form of a helically wound metallic coil.
4. A vascular occlusive device as defined in Claim 1, wherein the bioactive agent  
takes the form of a coating applied to the support member.  
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5. A vascular occlusive device as defined in Claim 1, wherein the bioactive agent is  
integral with the support member.

6. A vascular occlusive device as defined in Claim 1, wherein the outer barrier takes the form of a coating applied to the bioactive agent.

7. A vascular occlusive device as defined in Claim 2, wherein the outer barrier  
5 coating takes the form of a coating applied to the bioactive agent.

8. A vascular occlusive device as defined in Claim 1, wherein said bioactive agent is comprised of polyglycolic acid and said outer barrier coating is comprised of ethylene vinyl alcohol.

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9. A vascular occlusive device as defined in Claim 8, wherein said external agent is comprised of dimethyl sulfoxide.

10. A vascular occlusive device as defined in Claim 1, wherein said bioactive agent  
15 takes the form of a thrombus inducing coating.

11. A vascular occlusive device as defined in Claim 2, wherein said bioactive agent takes the form of a thrombus inducing coating.

20 12. A vascular occlusive device as defined in Claim 1, wherein said bioactive agent takes the form of a coating which induces the clotting of blood.

13. A vascular occlusive device as defined in Claim 2, wherein said bioactive agent takes the form of a coating which induces the clotting of blood.

14. A vascular occlusive device comprising:

5 a support member;

a bioactive agent disposed on said support member; and,

an outer barrier coating disposed on said bioactive agent to prevent exposure of said bioactive agent to bodily fluid when said vascular occlusive device is inserted into a blood vessel, said outer barrier coating exhibiting the characteristic of being non-water  
10 soluble but dissolving when an external activating agent is applied to said outer barrier coating.

15. A vascular occlusive device as defined in Claim 14, wherein the support member is a vascular occlusive embolic coil.

16. A vascular occlusive device as defined in Claim 14, wherein the bioactive agent takes the form of a coating applied to the support member.

17. A vascular occlusive device as defined in Claim 14, wherein the bioactive agent is  
20 integral with the support member.

18. A vascular occlusive device as defined in Claim 14, wherein said bioactive agent takes the form of a thrombus inducing coating.

19. A vascular occlusive device comprising:

a support member;

a bioactive agent disposed on said support member; and,

5 an outer barrier disposed on said bioactive agent to prevent contact between said bioactive agent and bodily fluid when said vascular occlusive device is inserted into a blood vessel, said outer barrier exhibiting the characteristic of being substantially inert to blood but dissolving and exposing a portion of said bioactive agent when in the presence of a biological agent.

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20. A vascular occlusive device as defined in Claim 19, wherein the support member is a vascular occlusive embolic coil.

21. A vascular occlusive device comprising:

15 a support member;

a bioactive agent disposed on said support member; and,

an outer barrier comprising an activatable agent, said outer barrier covering said bioactive agent and exhibiting the characteristics of substantially preventing a reaction between the bioactive agent and bodily fluid when said vascular occlusive device is  
20 inserted into a blood vessel and permitting a reaction between the bioactive agent and bodily fluid upon activation by an external source.

22. A vascular occlusive device as defined in Claim 21, wherein the support member is a vascular occlusive embolic coil.

23. A vascular occlusive device comprising:

5 a bioactive support member which when placed within the body causes a reaction with bodily tissue; and,

a barrier for preventing a reaction between the bioactive support member and bodily tissue when said vascular occlusive device is inserted into a blood vessel, said barrier exhibiting the characteristic of being non-water soluble but exposing the bioactive support member to bodily tissue when an activating agent is applied to said barrier.

24. A vascular occlusive device comprising:

a support member which when placed within the body causes a reaction with bodily tissue; and,

15 a barrier for preventing a reaction between the support member and bodily fluid when said vascular occlusive device is inserted into a blood vessel, said barrier exhibiting the characteristic of exposing a portion of said support member when in the presence of an external agent.

20 25. A vascular occlusive device as defined in Claim 24, wherein the support member is a vascular occlusive embolic coil.

26. A method of treating an aneurysm comprising the steps of:

providing a vascular occlusive device comprising a support member, a bioactive agent disposed on said support member, and a barrier exhibiting the characteristic of normally preventing a reaction between the bioactive agent and a bodily fluid and of exposing a portion of said bioactive agent when an external agent is applied to said  
5 barrier;

inserting a delivery catheter into a blood vessel;

advancing the distal tip of the delivery catheter through the blood vessel until the distal tip is adjacent an aneurysm within the blood vessel;

delivering said vascular occlusive device with the delivery catheter into an  
10 aneurysm; and,

applying said external agent through the catheter and into the aneurysm to thereby activate said barrier to expose said bioactive agent to bodily tissue to thereby cause a reaction between the bioactive agent and the bodily tissue.

15 27. A method of treating an aneurysm comprising the steps of:

providing a vascular occlusive device comprising a support member having a bioactive surface which reacts with bodily tissue and having a barrier which exhibits the characteristic of normally inhibiting a reaction between said bioactive surface of said vascular occlusive device and bodily tissue;

20 inserting a delivery catheter into a blood vessel;

advancing the distal tip of the delivery catheter through the blood vessel until the distal tip is adjacent an aneurysm within the blood vessel;

delivering said vascular occlusive device with the delivery catheter into an aneurysm; and,

applying an external agent through the catheter and into the aneurysm to thereby activate said barrier and thus expose said bioactive surface to bodily tissue to thereby

5 cause a reaction between the bioactive surface and the bodily tissue.